

Current Utility Industry Practices in Integrated Resource Planning

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Topics



- ✓ What is Integrated Resource Planning?
- ✓ How is an IRP Developed?
- ✓ How does IRP Fit With Other Processes?
- ✓ Can an IRP Provide Other Benefits?
- ✓ What is an IRP Not?
- ✓ IRP Trends in the Northwest

What is Integrated Resource Planning?



- ✓ Process a utility follows to plan the portfolio of energy resources it will use to serve its retail customers' future needs
- ✓ Produces a long-term resource strategy, including
 1. Types
 2. Amounts
 3. Timing

What is Integrated Resource Planning?



- ✓ An IRP considers a broad range of energy resource alternatives on a consistent, integrated basis
 - efficiency resources (e.g., conservation)
 - generating technologies (e.g., wind power, thermal power plants)
 - portfolio shaping resources (e.g., seasonal exchanges)

What is Integrated Resource Planning?



- ✓ Many utilities have returned to using IRP processes to determine their long-term resource strategy
 - energy crisis of 2000-2001 highlighted dangers of assuming that energy markets will provide adequate, low-cost resources
 - renewed recognition that utilities have public service obligations to their customers
 - resource decisions are multi-dimensional and have significant impacts (size, scope, duration)

How Is An IRP Developed?



- ✓ Development of an IRP involves extensive analysis
 - addresses multiple objectives (e.g., cost, risk, environmental impacts), including tradeoffs
 - uses various forecasts, assumptions and other inputs (e.g., expected customer demand, resource costs, market prices)
 - recent advances in risk analysis methods improve understanding of uncertainties (e.g., variability in customer demand, hydro conditions, market prices)

How Is An IRP Developed?



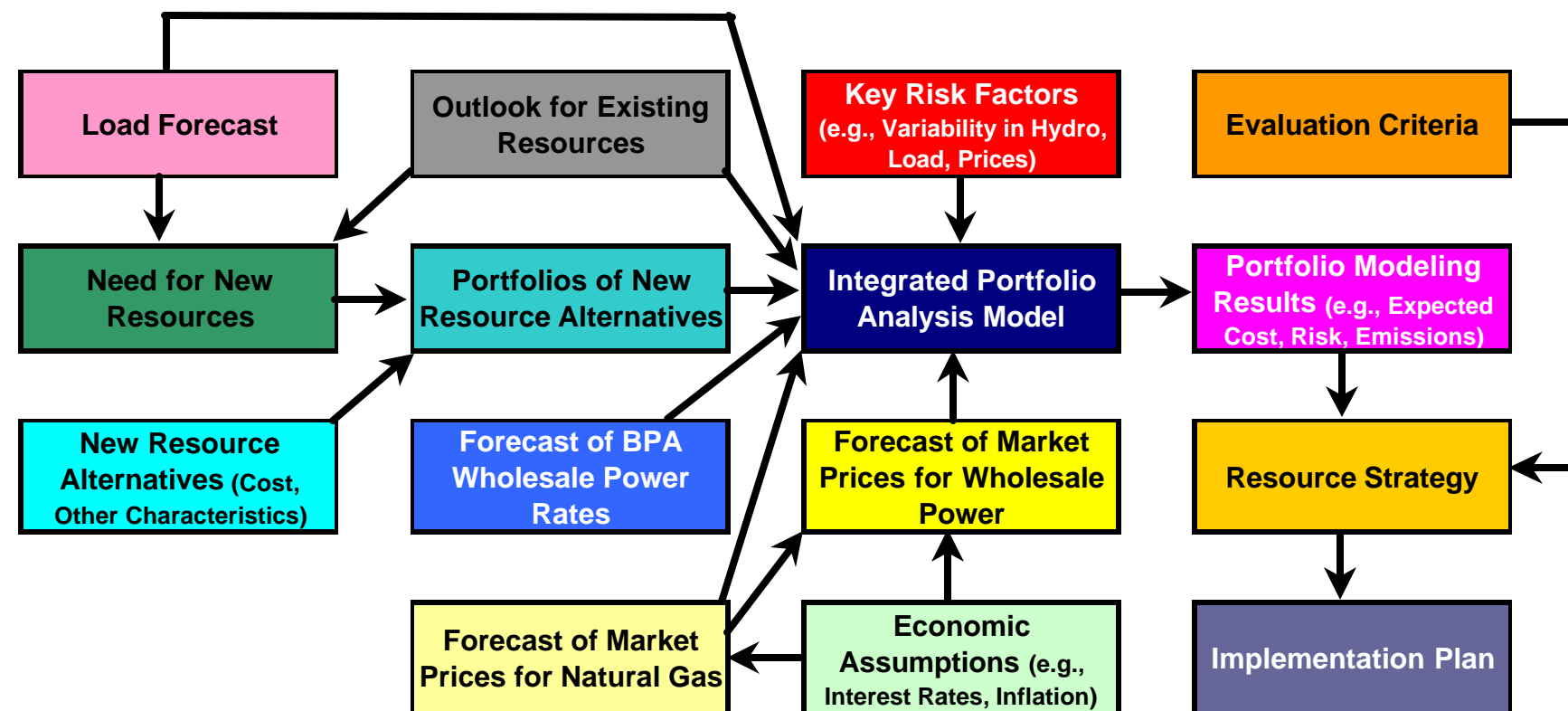
- ✓ IRP analysis looks at net impacts on the utility's overall resource portfolio
 - a utility uses a combined portfolio of resources to serve its customers
 - various types of resources can have differing impacts on a utility's overall portfolio
 - single-dimension measures such as levelized cost or mark-to-market value do not tell a complete or meaningful story
 - examples: seasonal load-resource balance, resource diversity, dispatchability

How Is An IRP Developed?



- ✓ Portfolio analysis models are tools that help the utility “test drive” alternatives before making commitments
 - evaluate various types and mixes of resources
 - use consistent forecasts, assumptions and other inputs
 - assess exposure to uncertainty factors
 - identify leading resource portfolio strategies

How Is An IRP Developed?



How is an IRP Developed?



- ✓ In addition to rigorous analysis, an IRP process provides an excellent forum for group learning and consensus-building
 - collaborative effort that actively involves staff from a number of departments across the utility
 - provides opportunity for productive interactions with customers and other stakeholders
 - process and results provide useful information that policy-makers can use to set the utility's resource strategy

How is an IRP Developed?



- ✓ IRP is more than a one-time exercise
 - various utilities are beginning to update their IRPs every two years
 - updates incorporate new information (e.g., regulatory developments, technology improvements)
 - updates also focus on topics that help the utility prepare to make upcoming decisions about specific resources
- ✓ Utilities returning to IRP should avoid trying to go from “zero to perfect” in one IRP cycle

How Does IRP Fit With Other Processes?



**Integrated
Resource Planning**

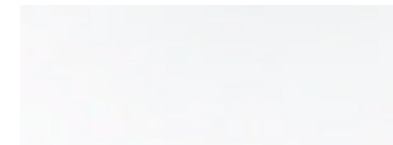
How Does IRP Fit With Other Processes?



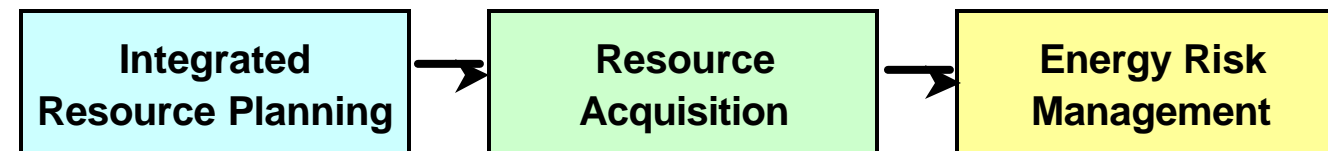
Integrated
Resource Planning



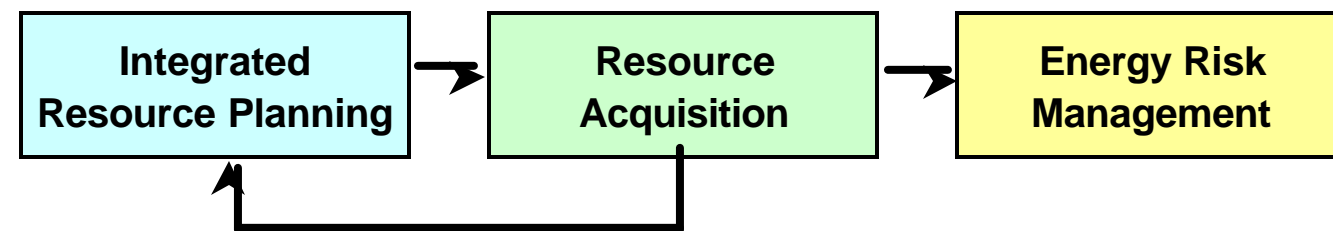
Resource
Acquisition



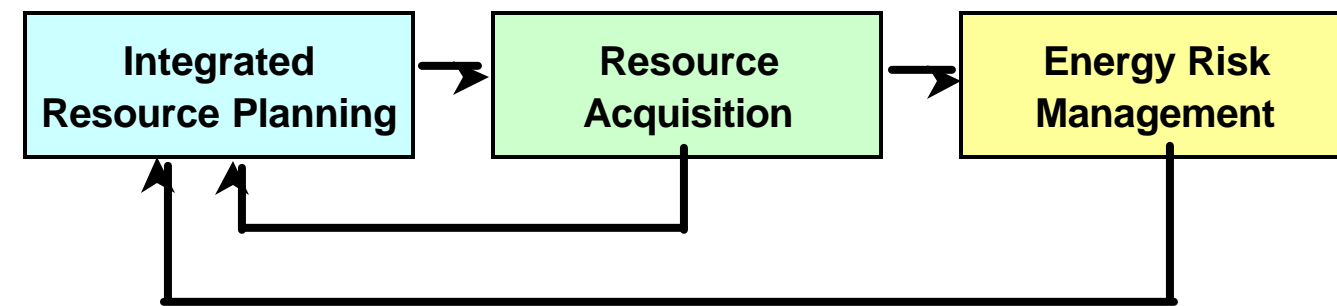
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How Does IRP Fit With Other Processes?



Can an IRP Provide Other Benefits?



- ✓ An IRP process provides a valuable opportunity to “rehearse the future”
 - considers a wide range of possible circumstances (the future is hard to predict)
 - assesses risk exposures and impacts
 - helps identify robust strategies (avoids depending on specific events to make a strategy succeed)

Can an IRP Provide Other Benefits?



- ✓ An IRP provides strategic guidance for future decisions about specific resources
 - identifies what kinds of opportunities to pursue in the resource acquisition process (e.g., RFP)
 - BUT, a good strategy provides flexibility to respond when new information becomes available

Can an IRP Provide Other Benefits?



- ✓ IRP results offer ongoing practical value
 - IRP results provide benchmarks (e.g., resource needs, avoided costs) that the utility can use to evaluate unique opportunities or unsolicited proposals
 - the utility can also use methods and tools developed in its IRP to evaluate acquisition opportunities

What is Integrated Resource Planning NOT?



- ✓ a one-time effort
- ✓ a purely internal or technical exercise
- ✓ an entirely public or qualitative process
- ✓ based only on one set of inputs that are claimed to be “correct”
- ✓ a valid way to justify predetermined conclusions
- ✓ used to develop an overly-specific or inflexible resource strategy
- ✓ used to evaluate specific projects

IRP Trends in the Northwest



- ✓ PacifiCorp's 2003 IRP help blaze a trail back to resource planning
 - open process, with information sharing and stakeholder participation
 - rigorous analysis, including cost vs. risk
 - provided a template that other utilities now use
- ✓ PSE's 2003 Least Cost Plan followed suit
 - driven by need to replace loss of existing resources
 - innovative analysis (e.g., resource adequacy)
 - collaborative approach melted adversarial relationship

IRP Trends in the Northwest



- ✓ A few other Investor-Owned Utilities learned the hard way
 - some IOUs rushed to build new generation or acquire power from affiliates, without an IRP or equal consideration of alternatives
 - stakeholders raised concerns, regulators issued orders criticizing inadequacies
 - most Northwest IOUs now recognize that a credible IRP can promote understanding and support for resource acquisitions

IRP Trends in the Northwest



- ✓ IRP at Northwest publicly-owned utilities
 - historically, BPA's wholesale power rate was a benchmark utilities used to evaluate new power supplies
 - BPA's traditional role in acquiring new power supplies is being shifted to utilities, increasing need for planning
 - most larger publics are returning to IRP (EWEB, Tacoma, Snohomish PUD)